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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,396	12/21/2001	John B. Burnett	1540-US	1075

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Legal Department
Teradyne, Inc.
321 Harrison Avenue
Boston, MA 02118

EXAMINER

LEE, PATRICK J

ART UNIT PAPER NUMBER

2878

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/026,396

Applicant(s)

BURNETT, JOHN B.

Examiner

Patrick J. Lee

Art Unit

2878

NC

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 2 is objected to because of the following informalities: A period should be disposed after the word "therein". Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Xu et al 6,069,690.

Xu et al disclose a system for analyzing a wafer (W) on stage (240) comprising a beamsplitter (219), a laser (201), a camera (230), and beam dump (221).

With respect to claim 10, Xu et al disclose the laser (201) as a source of illumination emitting light in a first direction, a beamsplitter (219) as a mirror, an inspection area on wafer (W), a camera (230) facing the inspection area on wafer (W), and a beam dump (221) as a means for absorbing extraneous light. Beam dump (221) is located on the opposite side of the source of illumination (see column 7, lines 1-7).

4. Claims 10 & 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Chiang 6,191,850 B1.

Chiang discloses a system for inspection of an object (46) comprising a light source (11), a camera (50), a beamsplitter (40), and a far end wall (47).

With respect to claim 10, Chiang discloses a light source (11) as a source of illumination, a beamsplitter (40) as a mirror, an inspection area (46) on object surface (44), and a camera (50) facing the inspection area (46). Chiang also discloses a wall (47) covered with a light-absorbing material (49) to absorb extraneous light, with the wall on the opposite side of the illumination source (11).

With respect to claim 18, Chiang discloses a video processor (57) and a computer (61) connected to the camera (50).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-9 & 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xu et al 6,069,690 in view of Lassalle EP 760,486 A1.

With respect to claims 1-2, 11, & 14, Xu et al disclose a beam splitter (219), a source of illumination (201) connected to a first port of the beam splitter, a camera (230) connected to a second port of the beam splitter, an inspection area on wafer (W), and a beam dump (221) as a light trap. However, Xu et al do not disclose the beam dump

(221) as having an angular surface. Light traps with an angular surface and a cavity are known and taught by Lassalle. Lassalle discloses a light trap with a cylindrical chamber (1A) and a conical body (12) located inside in order to form a cavity. Inner wall (4) of the cylindrical chamber (1A) is light absorbing. To modify the teachings of Xu et al with those of Lassalle would have been obvious to one of ordinary skill in order to prevent any extraneous light from adversely affecting the imaging capabilities of the device.

With respect to claim 3, the conical member having a parabolic outer surface is known and a mere matter of obvious design choice as it would allow for enhanced ability of the light trap to isolate the extraneous light.

With respect to claim 4, Lassalle discloses the aperture (9) to receive light in a first direction and a conical member (12) as an angled surface to reflect the light into the cavity formed by cylindrical member (1A).

With respect to claims 5 & 15, the use of an angled surface made of a light absorbing material is known and would have been obvious as it would allow for the light received by light trap (1) from exiting and adversely affecting the image received at the camera.

With respect to claims 6 & 12, Lassalle discloses the inner wall (4) surrounding the cavity formed by cylindrical member (1A) to be of a light absorbing material.

With respect to claim 7-8, the selection of materials to make the inner cavity walls and the angled surface is known and would have been obvious to one of ordinary skill as to do so would prevent the image captured from being adversely affected by extraneous light.

With respect to claims 9 & 13, the use of a plurality of angled surfaces and the plurality of cavities is known and would have been obvious to one of ordinary skill in the art as it is known that mere duplication of parts involves only routine skill in the art.

With respect to claim 16, Lassalle discloses the light trap (1) to have an inlet member (5) with a conical structure opening therein.

With respect to claim 17, Lassalle discloses the use of conical surface (12) with a reflecting surface to reflect extraneous light that enters aperture (9).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Miyazaki et al 5,170,063 disclose an inspection device for a semiconductor wafer with a light trap (20).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Lee whose telephone number is (703) 305-3871. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (703) 308-4852. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-9558.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

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Patrick J. Lee
Examiner
Art Unit 2878

PJL
November 13th, 2003


DAVID PORTA
SUPERVISOR, EXAMINER
TECHNICAL CENTER